

Matt JAQUIERY

PERSONAL

I am a Senior Research Software Engineer with a varied background. I have a broad range of interests in both particular scientific topics and the wider process of how science is done and how it relates to society. I aim to develop effective and appropriate computational solutions to problems to advance and facilitate scientific research. Having studied literature, philosophy, and science, I feel the scientific method offers the most promising approach to providing practical explanations, though the interpretation of results frequently requires philosophical analysis, especially when working on consciousness.

These advantages of science require a vigorous and continued vigilance to ensure empirical tests are robust and informative. I am actively involved in open science, continually looking for ways to ensure my scientific output is more reliable and help others do likewise.

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osf.io/bc9xt/



[mjaquery](https://github.com/mjaquery)



[VerySmallDreams.com](https://www.verysmalldreams.com)

KEY RESEARCH SKILLS

- Data analysis (inc. Big Data in R; IBM SPSS statistics package; some STATA)
- Web applications and APIs (Python/FastAPI/Django, TypeScript/JavaScript/CSS/HTML + React/Svelte/Vue)
- Programming (inc. Python, R, TypeScript, MATLAB, PHP/MySQL, C/C++/C#)
- Cloud service setup and maintenance
- Presenting to multi-level audiences
- High-level writing skills
- In-depth knowledge of academic software (inc. MS Office, LATEX, paint.net/Imagescape)

PUBLICATIONS

- Ostinelli EG, **Jaquery M**, Liu Q, et al. Personalising Antidepressant Treatment for Unipolar Depression Combining Individual Choices, Risks and big Data: The PETRUSHKA Tool: Personnalisation du traitement antidépresseur de la dépression unipolaire associant choix individuels, risques et mégadonnées: l'outil PETRUSHKA. The Canadian Journal of Psychiatry. 2025;70(10):768-781. doi:[10.1177/07067437251322399](https://doi.org/10.1177/07067437251322399)
- Jaquery M**, Yeung N (2024) Preferences for advisor agreement and accuracy. PLOS ONE 19(9): e0311211. <https://doi.org/10.1371/journal.pone.0311211>
- Jaquery M**. and El Zein M. Stage 2 Registered Report: How responsibility attributions to self and others relate to outcome ownership in group decisions [version 2; peer review: 2 approved]. *Wellcome Open Res* 2022, **6**:362 (<https://doi.org/10.12688/wellcomeopenres.17504.2>)
- Martin, A. F., Maughan, B., **Jaquery, M.**, & Barker, E. D. (2022). The protective role of father behaviour in the relationship between maternal postnatal depression and child mental health. *JCPP Advances*, e12075. <https://doi.org/10.1111/jcv2.12075>
- Martin, A.M., Maughan, B., **Jaquery, M.**, Barker, E.D. (2021) Father Behaviour is Protective Against Child Mental Health Difficulties When Mothers Experience Postnatal Depression. Poster presented at the Society for Research in Child Development 2021 Virtual Biennial Meeting, Virtual, 7-9 April, 2021
- Dance, C. J., **Jaquery, M.**, Eagleman, D. M., Porteous, D., Zeman, A., & Simner, J. (2021). What is the relationship between Aphantasia, Synaesthesia and Autism? *Consciousness and Cognition*, 89, 103087. <https://doi.org/10.1016/j.concog.2021.103087>

Gyurkovics, M., Kovacs, M., **Jaquiere, M.**, Palfi, B., Dechterenko, F., & Aczel, B. (2020). Registered Replication Report of Weissman, D. H., Jiang, J., & Egner, T. (2014). Determinants of congruency sequence effects without learning and memory confounds. *Attention, Perception, & Psychophysics*. <https://doi.org/10.3758/s13414-020-02021-2>

Rahnev, D., Desender, K., Lee, A.L.F., ..., **Jaquiere, M.**, ... (2020). The confidence database. *Nature Human Behaviour*, 1-8. <https://doi.org/10.1038/s41562-019-0813-1>

Chrisley, R. and **Jaquiere, M.** (2018). Trajectory change blindness: What might it tell us about the temporal character of visual experience?, paper presented to Association for the Scientific Study of Consciousness (ASSC22), Kraków, 26-9 June 2018.

In preparation:

Calder-Travis, J., Charles, L., **Jaquiere, M.**, Carlebach, N., Yeung, N. (*in prep*). Relative contributions of positive and negative evidence to confidence ratings.

Jaquiere, M. and Yeung, N. (*in prep*). Egocentric discounting as a rational response to self-other asymmetries.

PROJECTS

Habermas Machine – AI-mediated group deliberation tool (**Web platform developer**)

openBES – Open Building Energy Simulation project to model climate and energy properties of buildings (**Converted Excel tool to Python; Web platform developer**)

SDS Bulk Uploader – Digital humanities project allowing the Bodleian Library team to mass upload data to the FigShare platform (**Developer**)

Galv – battery science data platform (**Developer**)

PETRUSHKA – personal psychiatry web tool for allowing clinicians and patients to choose antidepressants based on side-effect profiles (**Developer**)

Reproducible Research Oxford – website (**Developer, Administrator, RROxStar**) – <https://ox.ukrn.org>

ReproducibiliTea – website (**Designer, Developer, Administrator, Steering Group Member**) – <https://reproducibiliTea.org>

Consortium for Research About Profanity – research group (**Co-founder**) – <https://crap.netlify.app>

UKRN Primer – Data sharing – **Lead Author**: <https://osf.io/wp4zu/>

UKRN Primer – Preprints – **Author**: <https://osf.io/m4zyh/>

A Crowdsourced Effort to Develop a Lab Manual Template for Social and Behavioural Scientists – **Contributor**: <https://bit.ly/2FdVt8F>

NIRO – Non-Interventional, Reproducible, and Open Systematic Reviews – (**Web developer**) – <https://niro-sr.netlify.app>

AWARDS and FUNDING

2017 ~ £ 87,000 MRC/Oxford Experimental Psychology fully funded DPhil Studentship

2017 ~ £ 1,000 The Sussex Neuroscience Prize for best MRes dissertation

EDUCATION and TRAINING

2021 *Carpentries' Instructor Training The Carpentries'*

2017-2021 **DPhil Experimental Psychology** Oxford University
Supervisor: Nick Yeung

2016-2017 **MRes Neuroscience** University of Sussex
Grade: Distinction (83%) - Dissertation 1: 87% / Dissertation 2: 84%

2013-2016 **B.Sc. (Hons.) Neuroscience with Cognitive Science** University of Sussex
Weighted Mean: 76% - Dissertation: 87% (Dr. Ron Chrisley; Dr. Paul Graham)

2009-2012 **B.A. (Hons.) English Literature** Open University

RESEARCH EXPERIENCE

Exploring Social Metacognition – Prof. **Nick Yeung**, ACC Lab, Oxford University

DPhil in Experimental Psychology (October 2017-2022)

Explored the relationship between the properties of advice people receive and their preferences for seeking it. I modified or designed and built several computer-delivered behavioural tasks using MATLAB, HTML/CSS/JavaScript/PHP, and analysed the data using R and Python. I extended the results of behavioural experiments to agent-based models. We found that agreement plays a role akin to giving verifiably accurate advice when verification is not possible, but did not find evidence that this process is weighted by confidence. Open science practices were used throughout, including preregistration, sharing data, and ensuring computational reproducibility through writing the thesis in RMarkdown.

The Eye's Mind – Prof. **Adam Zeman**, Cognitive Neurology Research Group, Exeter University

Honorary Postgraduate Research Assistant (June-December 2016)

Developed bespoke software to process the content of thousands of aphantasia questionnaires encoded in .doc format into a data structure suitable for analysis.

<http://medicine.exeter.ac.uk/research/healthresearch/cognitive-neurology/>

Analytical Tool Development – Prof. **Guy Richardson** (FRS), Sussex University

(Spring 2015)

Developed and shared programs for analysing electrophysiology traces. The shared versions extracted frequency and amplitude analysis of spikes.

"Thank you for creating the spikeAnalyser and legUp programs for our 2nd year *Techniques in Neuroscience* course. I had been looking for someone who could do this for me for at least a couple of years and no-one had risen to the challenge until you, as a student on the course, clearly realised the necessity and went off and did the job... I have no doubt we will be using your programs and the user guides you have written for many years to come."

g.p.richardson@sussex.ac.uk

Computational Model Visualisation Project - Dr. **Thomas Wennekers**, Plymouth University

Voluntary Research Assistant (Summer 2015)

Developing a Python program to project heatmap animations from computational models of neural activity onto a 3D model of a brain.

thomas.wennekers@plymouth.ac.uk

EMPLOYMENT

2024-present Senior Research Software Engineer – University of Oxford

Designing and developing software for research purposes alongside researchers.

2022-4 Research Software Engineer – University of Oxford

Developing software for research purposes alongside researchers.

2021-2 Research Associate – University of Bristol

Continuing role below.

2021 Course development – UK Reproducibility Network

Expanding a series of short Open Science Primers into a course of workshops with new animated video content, and developing a curriculum to teach facilitators to deliver them.

2021 Programmer – Elizabeth Wonnacott, St. John's College, Oxford

Extending a custom-built educational and scientific children's puzzle game using the Gorilla platform and TypeScript.

2018-present Web developer/admin – Reproducible Research Oxford

Developing, deploying, and maintaining the web presence for Reproducible Research Oxford (<https://ox.ukrn.org>), allowing visitors interested in reproducible research practices to find relevant people and events. Involves collaboration with the wider UK Reproducibility Network.

2017-present Research Assistant – MultiSense (Simner & Ward) Lab, University of Sussex

- Conducting research into aphantasia using a mixture of online experiments and reanalysis of large existing datasets.
- 2005-2015 Web Hosting Administrator** – Self Employed
Developing, maintaining, and administering websites, databases, and email accounts. Educating clients on the possibilities of web-based presentation and allowing them to reach informed choices about the details of their web presence. Interfacing with technical documentation, for example 3rd-party billing software.
- 2008-2009 Childminder** – afterschool care, 4-6 children aged 5-11
Cooking for, listening to, and entertaining children after school. The challenges of this work were largely mollified by the intelligent and kind personalities of the children involved.
- 2006-2008 GCSE/A-Level Tutor** – Various students in subjects including English and Maths.
Finding new ways for struggling students to interact with and understand their work.

TEACHING EXPERIENCE

- Designing and delivering a workshop to introduce Assryiology students to programming in Python.
- Instructing Carpentries workshops as part of the Oxford-Berlin Summer School programme.
- Demonstrating and marking undergraduate practical experiments.
- Volunteer tutor with Oxford International Summer School providing 14-18 year old students with experience of Oxbridge tutorials. I designed and delivered a two-week course on perceptual psychology and the philosophy of mind.
- Completed divisional tutorial- and lecture-focussed training programmes.
- Tutoring and assisting undergraduate peers in their degree work to the extent permitted by university academic guidelines.
- Tutoring children and adolescents in one-to-one or small group settings on subjects including English, Maths, and Sciences.

PUBLIC ENGAGEMENT

- Volunteer demonstrator for Experimental Psychology stand at Ideas Festival Oxford 2018

OTHER RELEVANT EXPERIENCE

- **ReproducibiliTea Steering Committee**, helping maintain and develop ReproducibiliTea Open Scholarship journal clubs in universities and similar organisations around the world. Lead website developer
- **Open Science Committee** member, helping Oxford Experimental Psychology integrate reproducible and open science practices into their work and teaching
- **ReproducibiliTea** Journal Club facilitator, leading discussions on papers addressing various issues with and aspects of open and reproducible research
- **Oxford Hub Practical Support Volunteer** providing support to members of the local community, including collecting prescriptions, shopping on their behalf, and accompanying them to do their own shopping etc.
- **Psychology Football** organiser, helping schedule a weekly kickabout to provide some exercise and entertainment for hard-working psychologists and academics in related fields
- **Reproducible Research Oxford** launch event facilitator, chairing discussions and ensuring the mini conference ran smoothly
- **Monday Maths** organizer, helping bring together Oxford Experimental Psychology graduate students and ECRs with an interest in exploring mathematics
- Various **mentor roles**, including for DPhil students in Oxford Experimental Psychology and with the UNIQ+ widening participation to higher education programme
- Assisting with **organization** of the Oxford Reproducibility School 2018 conference
- **Student Rep** for Taught Postgraduate Neuroscience, 2016-17

- **Committee member** for 'University of Sussex Polymath Society', an interdisciplinary presentation and discussion forum, 2015-17
- Wrote and delivered **presentations** on a range of discussion topics for the aforementioned society

REFERENCES

Dr. Martin Robinson, Department of Computer Science, University of Oxford

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Prof. Nick Yeung, Department of Experimental Psychology, University of Oxford

Tel: +44 1865 271389 Email: nicholas.yeung@psy.ox.ac.uk